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10/539,555	06/17/2005	Klaus Georg Matthias Muller	W1.2107 PCT-US	9268

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EXAMINER	
RAHIM, AZIM	

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3744	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/539,555	MULLER, KLAUS GEORG MATTHIAS	
	Examiner	Art Unit	
	AZIM RAHIM	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *44-85* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *44-85* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/17/2005,8/13/2007,5/27/2008,1/28/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 62 and 78 are objected to because of the following informalities: In claim 62 line 4, the recitation "*said* second circuit" should be corrected to recite --***a*** second circuit--. In claim 78, the recitation "claim *79*" should be corrected to recite --claim ***76***--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 44-51, 53, 57-67, 71-78 and 80-83 are rejected under 35 U.S.C. 102(b) as being anticipated by Meyer (US 5,931,376).

Regarding claims 44-47, 50, 61, 64, 74 and 78, Meyer discloses a method and apparatus for controlling a temperature of a machine component (spooling machines 2 and 3; referring to figures 1-4) comprising: first and second temperature sensors (27 and 28) spaced apart and positioned at a first fluid inflow path (air supply duct 5) and a second fluid inflow path (return air duct 6), respectively (illustrated in figure 1), for measuring temperatures at the respective locations and transferring the temperature information to the temperature regulating device (see column 3, lines 12-14 and 19-21), wherein a measuring section is a location of where the

temperature sensors are located (illustrated in figure 1); a third temperature sensor (29); wherein a temperature regulating fluid is supplied through the supply air duct (see column 2, lines 53-54); providing a fluid feed-in point (portion of the supply air duct disposed between air scrubber 19 and heater 22); providing a temperature regulating device (process computer 26) for regulating the temperature of the temperature regulating fluid at the fluid feed-in point (see column 3, lines 30-33); conducting said temperature regulating fluid to the machine component along said fluid inflow path from said feed-in point (illustrated in figure 1); providing a first/outer regulating circuit (room air controller 31) and a second/inner regulating circuit (air supply controller 32), wherein the regulating circuits are connected in a cascade-like manner (illustrated in figures 2 and 4); providing each regulating circuit with measured values from both sensors (as illustrated in figure 1, temperature sensor 27 is connected to and supplies information to the supply air controller, and temperature sensor 28 is connected to and supplies information to room air controller 31 via the dashed lines); wherein the first temperature sensor is located adjacent the fluid feed-in point (illustrated in figure 1) and the second temperature is located near the machine component (illustrated in figure 1); and setting a temperature of the temperature control fluid at the feed-in point using the temperature regulating device (see column 3, lines 42-51; temperature set points). As pertaining to claim 61, temperature sensor 28 can be used as a temperature sensor that measures the temperature of the air exiting room 1.

Regarding claims 48, 75-77 and 82, Meyer further discloses the providing of a fluid drive mechanism (blower 23) in said fluid inflow path (illustrated in figure 1) and determining the temperature measured by the first temperature sensor (see column 3, lines 19-21) after the feed-in point and before the fluid drive mechanism (as illustrated in figure 1, since the air recirculates

through the system, the first temperature sensor is located between the fluid feed-in point and the fluid drive mechanism); and wherein the second temperature sensor is located between the fluid drive means and the machine component and located in said inflow path upstream of an entrance of said fluid into the machine component (as illustrated in figure 1, since the air recirculates through the system, the second temperature sensor is located between the fluid drive means and the machine component and is located upstream of the machine component).

Regarding claims 49 and 80, Meyer further discloses that second temperature sensor is located, in a running time of said temperature control fluid, further than half a distance from said feed-in point to the machine component (illustrated in figure 1).

Regarding claims 51 and 65, Meyer further discloses the providing of an actuating member (valve 18), acting on said actuating member with the inner circuit (illustrated in figure 1; see dashed line extending from the supply air controller to the valve) with an actuating command (see column 4, lines 15-20; the controlling of the valve), providing an output value of the outer circuit (value Z-Soll from summation block 47 as illustrated in figure 4) and using said output value for forming a corrected command variable (see column 4, lines 60-63) for said inner regulating circuit (illustrated in figure 4).

Regarding claims 53 and 67, Meyer further discloses the forming of a corrected command variable for said outer regulating circuit (see column 4, lines 52-56) and forming said outer regulating circuit command variable via a pre-regulating member (time integral element 41) of a running time (indicative of a time integral element; see column 4, lines 35-36 and column 6, lines 37-42).

Regarding claims 57, 71 and 81, Meyer further discloses a third cascaded regulating circuit (first controlled system 33) and a third temperature sensor (29) spaced apart from the first and second temperature sensors (illustrated in figure 1), wherein temperature information sent by the third temperature sensor is supplied to the third regulating circuit (see column 4, lines 40-43, and illustrated in figures 2 and 4).

Regarding claim 58, Meyer further discloses the measuring of temperature via the second temperature sensor of the temperature control fluid before entering the machine component (as illustrated in figure 1, since the temperature control fluid recirculates through the system of ducts, the temperature sensor is located at a location before the fluid enters the machine component).

Regarding claim 59, Meyer further discloses that a fluid drive mechanism (blower 23) is located in the inflow path (illustrated in figure 1) and wherein the first temperature sensor is located downstream of the fluid drive mechanism (illustrated in figure 1).

Regarding claim 60, Meyer further discloses that the third temperature sensor is for measuring the temperature of an external air duct (13) that is integrally connected to the machine component (illustrated in figure 1).

Regarding claim 62, Meyer further discloses a first fluid circuit (14); circulating said temperature regulating fluid in said first fluid circuit (illustrated in figure 1), and controlling said temperature control fluid in said first fluid circuit form a second fluid circuit (7) using said valve (illustrated in figure 1 and see column 4, lines 56-58).

Regarding claim 63, Meyer further discloses a fluid heating unit (22) and a fluid cooling unit (17), providing a fluid circulating circuit (14) and providing said actuating member as an output control (see column 4, lines 56-58).

Regarding claim 66, Meyer further discloses a pre-regulating member (49) disposed in the inner regulating circuit (illustrated in figure 4) and adapted to generate a theoretical command variable (value that exits the pre-regulating member as illustrated in figure 4) and which takes expected heat and cooling losses in said measuring section into consideration (as illustrated in figures 1 and 4, the temperature values obtained from the first, second and third temperature sensors are products of heating and cooling losses).

Regarding claims 72 and 73, Meyer further discloses PI regulators (time integral elements 38 and 41) provided in the first and second regulating circuits (illustrated in figure 4) based on running time (this is the function of the time integral elements).

Regarding claim 83, Meyer further discloses a swirl chamber (blower 23, which can swirl air around) in said fluid flow path between said feed-in point and said first measuring point (illustrated in figure 1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer as applied to claim 51 above, and further in view of Rijnsdorp et al. (Rijnsdorp, US 3,415,720).

Regarding claim 52, Meyer discloses all the limitations as described above and further discloses a pre-actuating member (proportional element 46) that outputs a theoretical command variable (output value from the pre-regulating member as illustrated in figure 4) for forming the corrected command variable (illustrated in figure 4), and that the measuring section takes heating and cooling losses into consideration (as illustrated in figures 2 and 4, the temperature measurements from the temperature sensors are indicative of heating and cooling losses). However, Meyer fails to disclose that the theoretical command variable is formed based upon heat flow. Rijnsdorp teaches a cascaded control scheme (referring to figure 1) that utilizes heat flow as a controlled variable (see column 5, lines 47-55). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the control method of Meyer to utilize heat flow as taught by Rijnsdorp in order to provide added versatility to the control method, thus increasing operating efficiency.

6. Claims 54 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer as applied to claims 51and 65 above, and further in view of Goodzeit et al. (Goodzeit, US 5,025,381).

Regarding claims 54 and 68, Meyer discloses all the limitations as described above, and further discloses a first member (amplifier 37) for the first regulating circuit and a second member (amplifier 40) for the second regulating circuit (illustrated in figure 4), wherein both members provide a corrected command variable and excess amplitude (see column 4, lines 34-40; gain factor). However, Meyer fails to disclose that the member is a derivative member. Goodzeit teaches the concept of utilizing a derivative member (212) to input a value to an amplifier (214; illustrated in figure 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the control method of Meyer to utilize a derivative member as taught by Goodzeit in order to provide added versatility to the control method and apparatus, thus increasing operating efficiency.

7. Claims 55, 69 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer.

Regarding claims 55 and 69, Meyer discloses all the limitations as described above, and further discloses that a number of revolutions per minute of a spinning component of a machine are taken into account in regard to a created cooling load (see column 1, lines 55-61). However, Meyer fail to disclose that the number of revolutions of a machine component is utilized for pre-regulation for forming a corrected command variable for at least the inner regulating circuit. The general concept of providing multiple variables to provide a corrected command value of a

regulating circuit falls within the realm of common knowledge as obvious mechanical expedient and is illustrated by Meyer which teaches the utilization of values obtained by temperature sensors to provide corrected command values within a regulating circuit (see column 4, lines 52-63), and one having ordinary skill in the art would have been motivated to program a controller to utilize revolution data from a machine component to provide corrected command values in a regulating circuit in order to provide added versatility to the control method and apparatus, thus increasing operating efficiency.

Regarding claim 79, Meyer discloses all the limitations as described above, but fail to disclose that the first measuring point is arranged upstream of said feed-in point at a distance no greater than a tow second running time of said fluid. The general concept of providing a specific running time of a fluid flow through a system between two points falls within the realm of common knowledge as optimization of result effective variable because both the applicant's claimed 2 second running time and Meyer's device would provide the same result of providing fluid flow to a machine component, and one having ordinary skill in the art would have been motivated to provide a distance running time of no greater than 2 seconds between the first temperature sensor and the fluid feed-in point in order to prevent temperature reduction of the air from the cooling unit, thus increasing cooling efficiency.

8. Claims 56 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer as applied to claims 51and 65 above, and further in view of Sager (US 5,025,381).

Regarding claims 56 and 70, Meyer discloses all the limitations as described above, but fail to disclose a rise limiter provided as a pre-actuating member for at least the inner regulating

circuit for forming a corrected command variable. Sager teaches a control method and circuit for preventing oscillations (referring to figure 2) that utilizes a rise limiter (2) that operates as a filter that affects the rise of an inputted variable (see column 3, lines 42-54). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the control method and apparatus of Meyer to include the rise limiter as taught by Sager in order to reduce oscillations of temperature, thus stabilizing temperature control.

9. Claims 84 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer as applied to claim 74 above, and further in view of Mertens (US 5,025,381).

Regarding claims 84 and 85, Meyer discloses all the limitations as described above, but fails to disclose that the machine component is a roller or cylinder of a dampening offset printing press. Mertens teaches the concept of controlling the temperature of a dampening fluid and selected rolls of a printing press (see abstract) utilizing a regulator (13; as illustrated in figure 1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of Meyer to provide temperature control to a roller of a dampening offset printing press as taught by Mertens in order to improve the operating behavior of the printing press, thus increasing efficiency and reducing energy consumption.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AZIM RAHIM whose telephone number is (571) 270-1998. The

examiner can normally be reached on Monday - Thursday 7am - 3pm EST and Friday 7am - 9:30am EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules or Cheryl Tyler can be reached on 571-272-6681 and 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. R./
Examiner, Art Unit 3744
8/10/2009

/Frantz F. Jules/
Supervisory Patent Examiner, Art Unit 3744